CLASSIFICATION AND CORRELATION

OF

THE SOILS OF

BROWN COUNTY AND PART OF BARTHOLOMEW COUNTY

INDIANA

AUGUST 1985

LOCATION

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
MIDWEST NATIONAL TECHNICAL CENTER
LINCOLN, NEBRASKA

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Midwest National Technical Center
Lincoln, Nebraska 68508-3866

Classification and Correlation of the Soils of Brown County and Part of Bartholomew County, Indiana

The final correlation of the Brown County and Part of Bartholomew County Soil Survey was held in Lincoln, Nebraska, the week of April 15, 1985. Those participating by correspondence were William D. Hosteter, soil specialist and Steve R. Base, soil correlator. The data reviewed consisted of the manuscript, correlation samples, field sheets, laboratory data, and the field correlation. Steve R. Base attended the comprehensive field review the week of November 26, 1984.

Headnote for Detailed Soil Survey Legend:
Map symbols consist of a combination of letters or of letters and numbers. The first capital letter is the initial one of the map unit name. The lowercase letter that follows separates map units having names that begin with the same letter, except that it does not separate sloping or eroded phases. The second capital letter indicates the class of slope. Symbols without a slope letter are for nearly level soils or miscellaneous areas. A final number of 2 indicates that the soil is moderately eroded and a number 3 indicates that the soil is severely eroded.

SCIL CORRELATION OF
BROWN COUNTY AND PART OF BARTHOLOMEW COUNTY, INDIANA

Field symbols	Field map unit name	Publication symbol	Approved map unit name
AvA	Avonburg silt loam, 0 to 2 percent slopes	AvA	Avonburg silt loam, 0 to 2 percent slopes
Ba, Pg, DuA	Bartle silt loam, 0 to 3 percent slopes	Ba	Bartle silt loam, 0 to 3 percent slopes
Bu, BuB	Burnside Variant channery silt loam, occasionally flooded	Be	Beanblossom channery silt loam, occasionally flooded
BgF	Berks-Gilpin Variant-Wellston complex, 20 to 50 percent slopes	BgF	Berks-Trevlac-Wellston complex, 20 to 70 percent slopes
BnD2	Bonnell loam, 12 to 20 percent slopes, eroded	BnD2	Bonnell loam, 12 to 20 percent slopes, eroded
BnD3	Bonnell clay loam, 12 to 20 percent slopes, gullied	BpD3	Bonnell clay loam, 12 to 20 percent slopes, gullied
Cs, Sh	Chagrin silt loam, occasionally flooded	Ca	Chagrin silt loam, occasionally flooded
CdD2, CdD3, NeD2, NeD3	Chetwynd silt loam, 12 to 20 percent slopes, eroded	CdD2	Chetwynd loam, 12 to 20 percent slopes, eroded
CdF	Chetwynd loam, 20 to 50 percent slopes	CdF	Chetwynd loam, 20 to 50 percent slopes
CnC2, CnC3	Cincinnati silt loam, 6 to 12 percent slopes, eroded	CnC2	Cincinnati silt loam, 6 to 12 percent slopes, eroded
CwB	Crosby silt loam, 1 to 5 percent slopes	CwB	Crosby silt loam, 1 to 5 percent slopes
Hc, Cu	Haymond silt loam, frequently flooded	Hc	Haymond silt loam, frequently flooded

BROWN COUNTY AND PART OF BARTHOLOMEW COUNTY, INDIANA --Continued

Field symbols	Field map unit name	Publication symbol	Approved map unit name
HkD2, HkD3	Hickory silt loam, 12 to 20 percent slopes, eroded	HkD2	Hickory silt loam, 12 to 20 percent slopes, eroded
HkF	Hickory loam, 20 to 50 percent slopes	HkF	Hickory silt loam, 20 to 70 percent slopes
OcB, MeB	Martinsville silt loam, 1 to 6 percent slopes	MaB	Martinsville loam, 1 to 6 percent slopes
MnC2, MnD2	Miami loam, 6 to 15 percent slopes, eroded	MnC2	Miami loam, 6 to 15 percent slopes, eroded
PeB, PeB2, HaB, HaB2	Pekin silt loam, 2 to 6 percent slopes	PeB	Pekin silt loam, 2 to 6 percent slopes
OtC2	Otwell silt loam, 6 to 12 percent slopes, eroded	PeC2	Pekin silt loam, 6 to 12 percent slopes, eroded
Rw	Rensselaer-Whitaker complex	Re	Rensselaer-Whitaker complex
RoB2, RoB	Rossmoyne silt loam, 2 to 6 percent slopes, eroded	RoB2	Rossmoyne silt loam, 2 to 6 percent slopes, eroded
Sf, Wr	Steff silt loam, frequently flooded	Sf	Steff silt loam, frequently flooded
St	Stendal silt loam, frequently flooded	St	Stendal silt loam, frequently flooded
Sv, Bo	Stendal silt loam, frequently flooded, very long duration	Sv	Stendal silt loam, frequently flooded, very long duration
CoC2	Wellston Variant silt loam, 6 to 10 percent slopes, eroded	SwC2	Stonehead silt loam, 6 to 10 percent slopes, eroded

BROWN COUNTY AND PART OF BARTHOLOMEW COUNTY, INDIANA --Continued

Field symbols	Field map unit name	Publication symbol	Approved map unit name
CoD3	Wellston Variant silt loam, 10 to 20 percent slopes, gullied	SwD3	Stonehead silt loam, 10 to 20 percent slopes, gullied
CoD2	Wellston Variant-Gilpin Variant silt loams, 10 to 20 percent slopes, eroded	SxD2	Stonehead-Trevlac silt loams, 10 to 20 percent slopes, eroded
Gh	Genesee Variant silt loam, frequently flooded	Sy	Stonelick loam, gravelly substratum, frequently flooded
TlB, TlB2	Tilsit silt loam, 2 to 6 percent slopes	TlB	Tilsit silt loam, 2 to 6 percent slopes
UØ, UA	Udorthents, loamy	Ud	Udorthents, loamy
WgC	Wellstor-Berks-Gilpin Variant complex, 6 to 20 percent slopes	WaD	Wellston-Berks-Trevlac complex, 6 to 20 percent slopes
WsC2, GpD2	Wellston-Gilpin Variant silt loams, 6 to 20 percent slopes, eroded	WeC2	Wellston-Gilpin silt loams, 6 to 20 percent slopes, eroded
Wt, El	Wilbur silt loam, frequently flooded	Wt	Wilbur silt loam, frequently flooded

Series Established by this Correlation:

Beanblossom (type location Brown County, Indiana)
Trevlac (type location Brown County, Indiana)

Series Dropped or Made Inactive:

None

Certification Statement:

The state soil scientist certifies that the detailed maps and general soils map are joined with adjacent counties. Areas which do not join are noted in the join statement submitted with the field correlation.

The mapping is completed, interpretations have been coordinated, and all typical pedons are in soil areas using the map unit name. The legal descriptions of the location of the typical pedons are correct.

Verification of Exact Cooperator Names:
The following will be on the front of the publication:

United States Department of Agriculture
Soil Conservation Service
In cooperation with
United States Department of Agriculture,
Forest Service
Purdue University
Agricultural Experiment Station and
Indiana Department of Natural Resources
Soil and Water Conservation Committee

The citation in the box on the inside of the front cover will read:

"This survey was made cooperatively by the Soil Conservation Service, Forest Service, Purdue University Agricultural Experiment Station, and the Indiana Department of Natural Resources, Soil and Water Conservation Committee. It is part of the technical assistance furnished to the Brown County and Bartholomew County Soil and Water Conservation Districts. Financial assistance was made available by the Brown County Board of County Commissioners."

Disposition of Field Sheets:
The original atlas field sheets for Brown County and Part of Bartholomew County will be retained by the Indiana State Office and will be used in the map compilation and finishing procedures. Copies have been made for fire protection purposes.

Prior Soil Survey Publications:
A reference to the 1946 soil survey of Brown County, Indiana, will be made in the introduction of this publication. An example of how this might be done follows:

> The first soil survey of Brown County was made in 1946 (reference citation). This survey updates the first survey and provides additional information and larger maps that show the soils in greater detail.
>
> > Soil survey of Brown County, Indiana, O. C. Rogers, in charge, and Ralph G. Leighty, U.S. Department of Agriculture, and H. P. Ulrich and Sutton Meyers, Purdue University Agricultural Experiment Station, 54 pp., illus., 1946.

Instructions for Map Finishing:
The conventional and special symbols used in this survey are listed on the attached SCS-SOILS-37A. These are the only symbols that will be shown on the published maps. The maps will be finished using the "Guide for Soil Map Finishing," July 1976.

SCS-SOILS-37A
3-75

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

Soil Survey Area: Brown County and Part of Bartholomew County
State: Indiana

Date: 1/85

DESCRIPTION	SYMBOL

CULTURAL FEATURES

BOUNDARIES

County or parish

Minor civil division

Reservation (national forest or park, state forest or park, and large airport)

Limit of soil survey (label)

Field sheet matchline & neatline

AD HOC BOUNDARY (label)

Small airport, airfield, park, oilfield, cemetery, or flood pool

STATE COORDINATE TICK
1 890 000 FEET

LAND DIVISION CORNERS (sections and land grants)

ROADS

County, farm or ranch

ROAD EMBLEMS & DESIGNATIONS

State (52)

RAILROAD

DAMS

Large (to scale)

Medium or small

PITS

Gravel pit

Mine or quarry

CULTURAL FEATURES (cont.)

MISCELLANEOUS CULTURAL FEATURES

Farmstead, house (omit in urban areas)

Church

School

WATER FEATURES

DRAINAGE

Perennial, double line

Perennial, single line

Intermittent

Drainage end

LAKES, PONDS AND RESERVOIRS

Perennial (water) (w)

MISCELLANEOUS WATER FEATURES

SPECIAL SYMBOLS FOR SOIL SURVEY

SOIL DELINEATIONS AND SOIL SYMBOLS

ESCARPMENTS CeA FoB2

SHORT STEEP SLOPE

GULLY

RECOMMENDED AD HOC SOIL SYMBOLS

Landfill each symbol represents 10 acres or less. Φ

Less than 60 inches to loose sand and gravel, each symbol represents 10 acres or less. #

PRIME FARMLAND

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name)

Map symbol	Soil name
AvA	Avonburg silt loam, 0 to 2 percent slopes (where drained)
Ba	Bartle silt loam, 2 to 3 percent slopes (where drained)
Ca	Chagrin silt loam, occasionally flooded
CwB	Crosby silt loam, 1 to 5 percent slopes (where drained)
Hc	Haymond silt loam, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
MaB	Martinsville loam, 1 to 6 percent slopes
PeB	Pekin silt loam, 2 to 6 percent slopes
Re	Rensselaer-Whitaker complex (where drained)
RoB2	Rossmoyne silt loam, 2 to 6 percent slopes, eroded
Sf	Steff silt loam, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
St	Stendal silt loam, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
Sy	Stonelick loam, gravelly substratum, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
TlB	Tilsit silt loam, 2 to 6 percent slopes
Wt	Wilbur silt loam, frequently flooded (where protected from flooding or not frequently flooded during the growing season)

Approved: August 19, 1985

Rodney F. Harner

RODNEY F. HARNER
Head, Soils Staff
Midwest NTC

CONVERSION LEGEND FOR
BROWN COUNTY AND PART OF BARTHOLOMEW COUNTY, INDIANA

Field symbol	Publication symbol	Field symbol	Publication symbol	Field symbol	Publication symbol	Field symbol	Publication symbol
AvA	AvA	RoB2	RoB2				
Ba	Ba	Rw	Re				
BgF	BgF	Sf	Sf				
BnD2	BnD2	Sh	Ca				
BnD3	BnD3	St	St				
Bo	Sv	Sv	Sv				
Bu	Be	TlB	TlB				
BuB	Be	TlB2	TlB				
CdD2	CdD2	UA	Ud				
CdD3	CdD2	UD	Ud				
CdF	CdF	WgC	WaD				
CnC2	CnC2	Wr	Sf				
CnC3	CnC2	WsC2	WeC2				
CoC2	SwC2	Wt	Wt				
CoD2	SxD2						
CoD3	SwD3						
Cs	Ca						
Cu	Hc						
CwB	CwB						
DuA	Ba						
El	Wt						
Gh	Sy						
GpD2	WeC2						
HaB	PeB						
HaB2	PeB						
Hc	Hc						
HkD2	HkD2						
HkD3	HkD2						
HkF	HkF						
MeB	MaB						
MnC2	MnC2						
MnD2	MnC2						
NeD2	CdD2						
NeD3	CdD2						
OcB	MaB						
OtC2	PeC2						
PeB	PeB						
PeB2	PeB						
Pg	Ba						
RoB	RoB2						

CLASSIFICATION OF PEDONS SAMPLED FOR LABORATORY ANALYSIS

1. Data from Purdue University with SCS-SOILS-8 Forms

Sampled as	Pedon Sample No.	Publication Symbol	Approved Series Name or Classification
Avonburg*	S82IN13-4	AvA	Avonburg
Bartle*	S82IN13-5	Ba	Bartle
Berks*	S81IN13-2	BgF	Berks
Bonnell*	S81IN13-7	BnD2	Bonnell
Burnside Variant**	S81IN13-5	Be	Beanblossom
Gilpin Variant**	S81IN13-6	BgF	Trevlac
Haymond*	S81IN13-3	Hc	Haymond
Otwell	S81IN13-11	PeC2	Pekin (taxadjunct low clay content in control section)
Steff*	S81IN13-9	Sf	Steff
Stendal*	S81IN13-8	St	Stendal
Tilsit	S81IN13-1	TlB	Zanesville (inclusion)
Wellston*	S81IN13-4	WaD	Wellston
Wellston Variant	S81IN13-10	SwC2	Wellston (inclusion)

2. Partial data without SCS-SOIL-8 Forms

Tilsit	S84IN-13-1	TlB	Tilsit
Tilsit	S84IN-13-2	TlB	Tilsit

3. Data from NSSL with SCS-SOILS-8 Forms

Tilsit	S73IN-7-1	TlB	Tilsit
Cincinnati*	S82IN-013-001	CnC2	Cincinnati

Brown County and Part of Bartholomew County, Indiana

Sampled as	Pedon Sample No.	Publication Symbol	Approved Series Name or Classification
Genesee Variant	S83IN-005-001	Sy	Moundhaven (not correlated in this survey, inclusion in Stonelick map unit)
Hickory*	S82IN-013-002	HkF	Hickory
Miami	S82IN-005-005	MnC2	Miami (Inclusion, C horizon too gravelly)
Ockley	S82IN-005-008	MaB	Ockley (not correlated in this survey, inclusion in Martinsville map unit)
Rossmoyne*	S82IN-013-006	RoB2	Rossmoyne

*Typifying pedon
**Type location

Notes to Accompany
Classification and Correlation
of the Soils of
Brown County and
Part of Bartholomew County, Indiana

by

Bill Hosteter and Steve R. Base

AVONBURG SERIES
This soil formed in loess and gritty silts of unknown origin and has not formed in till in the lower part of the profile as the series requires.

BEANBLOSSOM SERIES
This series is established by this correlation. It has formed in alluvium which has more than 35 percent coarse fragments.

CHETWYND SERIES
This soil is not considered a source of sand in this survey area. A loamy substratum SCS-SOI-5 form was used.

CINCINNATI SERIES
This soil has a perched water table at depths of 2.5 to 3 feet during the winter and early spring. The official series range is 2.5 to 4 feet. Tables will be changed. The Bt horizon is a little too thick and the Btx horizon contains more silt than defined for the series. This soil formed partially in a layer of gritty silts of unknown origin and is slightly deeper to the material formed in glacial till than defined for the series.

CROSBY SERIES
This soil is a taxadjunct because it contains less clay in control section than required for the series. It is a fine-loamy, mixed, mesic Aeric Ochraqualf.

GILPIN SERIES
This soil formed in a thin layer of loess and the underlying material weathered from residuum. It does not have coarse fragments in the surface layer as the series requires.

HAYMOND SERIES
This soil is slightly more acid than the series range.

HICKORY SERIES
The Bt horizon is thicker than defined for the series.

MARTINSVILLE SERIES
This soil is more acid and contains more sand in the lower part of the solum than the series range.

MIAMI SERIES
This soil has less clay in the upper part of the Bt horizon than defined for the series. It is also less acid.

PEKIN SERIES
Map unit PeC2 is a taxadjunct because the control section has less clay than is required for the series. Map unit PeB has a fragipan at a shallower depth than the series range. Also, the Ap horizon is more acid and the C horizon is dominantly sandy loam which is outside the series range. However, it is not considered a taxadjunct.

RENSSELAER SERIES
The mollic epipedon is slightly thinner than the series range.

ROSSMOYNE SERIES
This soil formed in loess and silty drift of unknown origin and does not have development in till as the series required.

STENDAL SERIES
The pH in the upper part of this soil is slightly higher than the series range. This higher pH is considered to be caused by the addition of lime.

STONEHEAD SERIES
The lower part of the 2Bt horizon and the 2BC horizon has slightly less clay than the series range.

STONELICK SERIES
This unit is set up as gravelly substratum phase since it is a source of sand and gravel. A gravelly substratum SCS-SOI-5 will be used.

TILSIT SERIES
The upper part of the solum formed in loess which is not in the series range. The depth to the fragipan is slightly more than the series range. The solum is thicker than the series range and the lower part contains more coarse fragments.

TREVLAC SERIES
This series is established by this correlation. It has formed in residuum weathered from interbedded siltstone, shale, and sandstone bedrock.

WELLSTON SERIES
The solum is slightly thicker than the series range.

WHITAKER SERIES
The upper 2Bt horizon is a little less acid than defined for the series.

CLASSIFICATION OF THE SOILS

(An asterisk in the first column indicates a taxadjunct to the series. See notes for a description of those characteristics of this taxadjunct that are outside the range of the series)

Soil name	Family or higher taxonomic class
Avonburg	Fine-silty, mixed, mesic Aeric Fragiaqualfs
Bartle	Fine-silty, mixed, mesic Aeric Fragiaqualfs
Beanblossom	Loamy-skeletal, mixed, nonacid, mesic Typic Udifluvents
Berks	Loamy-skeletal, mixed, mesic Typic Dystrochrepts
Bonnell	Fine, mixed, mesic Typic Hapludalfs
Chagrin	Fine-loamy, mixed, mesic Dystric Fluventic Eutrochrepts
Chetwynd	Fine-loamy, mixed, mesic Typic Hapludults
Cincinnati	Fine-silty, mixed, mesic Typic Fragiudalfs
*Crosby	Fine, mixed, mesic Aeric Ochraqualfs
Gilpin	Fine-loamy, mixed, mesic Typic Hapludults
Haymond	Coarse-silty, mixed, nonacid, mesic Typic Udifluvents
Hickory	Fine-loamy, mixed, mesic Typic Hapludalfs
Martinsville	Fine-loamy, mixed, mesic Typic Hapludalfs
Miami	Fine-loamy, mixed, mesic Typic Hapludalfs
*Pekin	Fine-silty, mixed, mesic Aquic Fragiudalfs
Rensselaer	Fine-loamy, mixed, mesic Typic Argiaquolls
Rossmoyne	Fine-silty, mixed, mesic Aquic Fragiudalfs
Steff	Fine-silty, mixed, mesic Fluvaquentic Dystrochrepts
Stendal	Fine-silty, mixed, acid, mesic Aeric Fluvaquents
Stonehead	Fine-silty, mixed, mesic Ultic Hapludalfs
Stonelick	Coarse-loamy, mixed (calcareous), mesic Typic Udifluvents
Tilsit	Fine-silty, mixed, mesic Typic Fragiudults
Trevlac	Loamy-skeletal, mixed, mesic Typic Hapludults
Udorthents	Loamy, mixed, mesic Udorthents
Wellston	Fine-silty, mixed, mesic Ultic Hapludalfs
Whitaker	Fine-loamy, mixed, mesic Aeric Ochraqualfs
Wilbur	Coarse-silty, mixed, nonacid, mesic Aquic Udifluvents